

**CLAIMS**

We claim:

1. A subscriber system for inserting advertisements into  
5 at least one channel of media signals, the system comprising:

an ad scheduler for identifying a predetermined order in  
which the advertisements are to be inserted into the at least  
one channel, storing an ordered list corresponding to the  
identified order, and modifying the stored ordered list whenever  
10 a modification requiring event occurs; and

an ad insertion module, coupled to the ad scheduler, for  
inserting the advertisements into the at least one channel  
according to the stored ordered list.

15 2. The system of claim 1, wherein the subscriber system  
is implemented using a set top box and the at least one channel  
is a television program channel.

20 3. The system of claim 2, wherein the modification  
requiring event is at least one or a combination of the  
following events: a channel change, a viewer change, a change in  
the type of program being watched, and a change in the size of  
an upcoming avail in the at least one channel.

4. The system of claim 3, further comprising:

a watchdog module, coupled to the ad scheduler, for detecting a channel change, a change in the type of program being watched and a change in the size of an upcoming avail in the at least one channel, and outputting results of the detection to the ad scheduler, so that the ad scheduler modifies the stored ordered list based on the results of the detection.

5. The system of claim 4, further comprising:

a remote control device for directing to the watchdog module a program channel selection by a viewer, wherein the watchdog module detects the channel change based on outputs from the remote control device.

6. The system of claim 5, wherein the watchdog module detects the change in the type of program being watched based on program information and the channel selection received from the remote control device.

7. The system of claim 5, further comprising:

a profiling module, coupled to the remote control device and the ad scheduler, for receiving viewing information from the remote control device and detecting the viewer change using

prestored viewer profile information and the viewing information received from the remote control device.

8. The system of claim 7, wherein the profiling module  
5 defects the viewer change using at least one of the following information included in the prestored viewer profile information: volume control information for each viewer in a subscriber household, time-of-day information associated with each viewer, programs watched by each viewer, and channel change  
10 information pertaining to each viewer.

9. The system of claim 1, further comprising:  
a storage unit, controlled by the ad scheduler, for storing  
therein the ordered list in the form of a queue.

10. The system of claim 9, wherein the ordered list stored  
in the storage unit is a stacked list of advertisement resource  
locators (ARLs) corresponding locations where the advertisements  
are stored.

11. The system of claim 10, wherein the order in the  
ordered list stored in the storage unit is dictated by tags  
included in the ARLs.

12. The system of claim 11, wherein the tags identify one or more of the following parameters: viewer identity, program being watched, type of program being watched, and serial numbers assigned to the ARLs.

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13. The system of claim 1, further comprising:

a receiving module, coupled to the ad insertion module, for receiving the at least one channel from a communications network.

14. The system of claim 13, wherein the communications network is a television service network.

15. The system of claims 13, wherein the communications network is an Internet service network.

16. The system of claim 13, wherein the receiving module receives the at least one channel by one of the following means: analog cable, digital broadcast satellite (DBS), digital cable, switched digital video (SDV), digital subscriber line (DSL), very high speed digital subscriber line (VDSL), hybrid fiber coax (HFC) cable, or the Internet.

17. A subscriber system for inserting advertisements into at least one channel of media signals, the system comprising:

first means for identifying a predetermined order in which the advertisements are to be inserted into the at least one channel, storing an ordered list corresponding to the identified order, and modifying the stored ordered list whenever a modification requiring event occurs; and

second means, coupled to the first means, for inserting the advertisements into the at least one channel according to the stored ordered list.

18. The system of claim 17, wherein the at least one channel is a television program channel.

19. The system of claim 18, wherein the modification requiring event is at least one or a combination of the following events: a channel change, a viewer change, a change in the type of program being watched, and a change in the size of an upcoming avail in the at least one channel.

20. The system of claim 19, further comprising:

third means, coupled to the first means, for detecting an occurrence of the modification requiring event, and outputting results of the detection to the first means, so that the first

means modifies the stored ordered list based on the results of the detection.

21. The system of claim 20, further comprising:

5 a channel selection device, coupled to the third means, for selecting a program channel for viewing by a viewer, wherein the third means detects the channel change based on outputs from the channel selection device.

10 22. The system of claim 20, wherein the third means detects the viewer change using prestored viewer profile information.

15 23. The system of claim 22, wherein the third means detects the viewer change using at least one of the following information included in the prestored viewer profile information: volume control information for each viewer in a subscriber household, time-of-day information associated with each viewer, programs watched by each viewer, and channel change  
20 information pertaining to each viewer.

24. The system of claim 20, further comprising:

a channel selection device, coupled to the third means for selecting a program channel for viewing by a viewer, wherein the

third means detects the change in the type of program being watched based on outputs from the channel selection device and program information.

5           25. The system of claim 17, wherein the first means includes a memory for storing the ordered list in the form of a queue.

10           26. The system of claim 25, wherein the ordered list stored in the memory is a stacked list of advertisement resource locators (ARLs) corresponding locations where the advertisements are stored.

15           27. The system of claim 26, wherein the order in the ordered list stored in the memory is dictated by tags included in the ARLs.

20           28. The system of claim 27, wherein the tags identify one or more of the following parameters: viewer identity, program being watched, type of program being watched, and serial numbers assigned to the ARLs.

29. The system of claim 17, further comprising:

fourth means, coupled to the second means, for receiving  
the at least one channel from a communications network.

30. The system of claim 29, wherein the communications  
5 network is a television service network.

31. The system of claims 29, wherein the communications  
network is an Internet service network.

10 32. The system of claim 29, wherein the fourth means  
receives the at least one channel by one of the following means:  
analog cable, digital broadcast satellite (DBS), digital cable,  
switched digital video (SDV), digital subscriber line (DSL),  
very high speed digital subscriber line (VDSL), hybrid fiber  
15 coax (HFC) cable, or the Internet.

33. A method of inserting advertisements into at least one  
channel of media signals using an advertisement insertion system  
of a subscriber, the method comprising the steps of:

20 identifying a predetermined order in which the  
advertisements are to be inserted into the at least one channel;  
storing an ordered list corresponding to the identified  
order in the advertisement insertion system to produce a stored  
ordered list;



modifying the stored ordered list whenever a modification requiring event occurs; and

inserting the advertisements into the at least one channel according to the stored ordered list.

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34. The method of claim 33, wherein the at least one channel is a television program channel.

35. The method of claim 34, wherein, in the modifying step, the modification requiring event is at least one or a combination of the following events: a channel change, a viewer change, a change in the type of program being watched, and a change in the size of an upcoming avail in the at least one channel.

36. The method of claim 35, wherein the modifying step includes:

detecting an occurrence of the modification requiring event; and

modifying the stored ordered list based on results of the detecting step.

37. The method of claim 36, wherein, in the detecting step, the channel change is detected based on outputs from a

channel selection device coupled to the advertisement insertion system.

38. The method of claim 36, wherein, in the detecting  
5 step, the viewer change is detected using prestored viewer profile information.

39. The method of claim 38, wherein the viewer change is detected using at least one of the following information  
10 included in the prestored viewer profile information: volume control information for each viewer in the household of the subscriber, time-of-day information associated with each viewer, programs watched by each viewer, and channel change information  
15 pertaining to each viewer.

40. The method of claim 36, wherein, in the detecting  
step, the change in the type of program being watched is detected based on outputs from a channel selection device coupled to the advertisement insertion system and program  
20 information.

41. The method of claim 33, wherein, in the storing step, the ordered list is stored in a queue in a memory accessible by the advertisement insertion system.

42. The method of claim 41, wherein the ordered list stored in the queue is a stacked list of advertisement resource locators (ARLs) corresponding to locations where the advertisements are stored.

43. The method of claim 42, wherein the order in the ordered list stored in the queue is dictated by tags included in the ARLs.

44. The method of claim 43, wherein the tags identify one or more of the following parameters: viewer identity, program being watched, type of program being watched, time of day, and serial numbers assigned to the ARLs.

45. The method of claim 41, further comprising:  
prior to the inserting step, receiving the at least one channel from a communications network.

46. The method of claim 45, wherein the communications network is a television service network.

47. The method of claims 45, wherein the communications network is an Internet service network.

48. The method of claim 45, wherein, in the receiving step, the at least one channel is received by one of the following means: analog cable, digital broadcast satellite (DBS), digital cable, switched digital video (SDV), digital subscriber line (DSL), very high speed digital subscriber line (VDSL), hybrid fiber coax (HFC) cable, or the Internet.

49. The method of claim 33, wherein the ordered list identifies one or more linked advertising parameters for providing linked advertising.

50. The method of claim 49, wherein the linked advertising parameters identify at least one of time dependence, program dependence, and viewer dependence of advertisements.

51. The system of claim 1, wherein the ordered list identifies one or more linked advertising parameters for providing linked advertising.

52. The system of claim 51, wherein the linked advertising parameters identify at least one of time dependence, program dependence, and viewer dependence of advertisements.